

VII. THE INFERIOR DENTITION OF A YOUNG MASTODON.

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Since describing the Pleistocene remains from the Frankstown Cave, which are preserved in the Carnegie Museum, it was decided to further investigate the lower jaws of the young Mastodon, No. 2332.¹

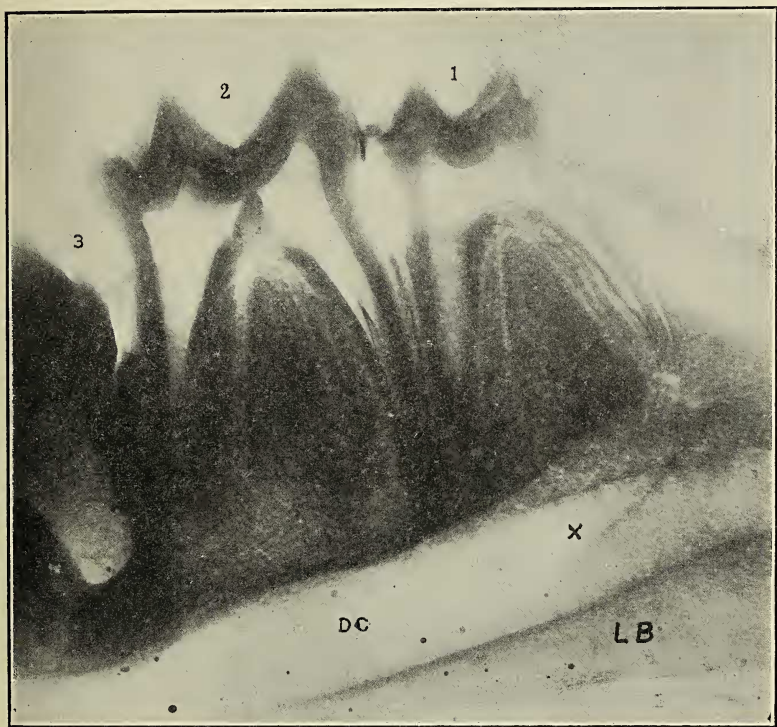


FIG. 1. Skiagraph of anterior milk-teeth in lower jaw of a young specimen of *Mastodon americanus* Kerr, from the Frankstown Cave. (C. M. Cat. Vert. Foss. No. 2332). 1. Anterior milk-tooth, fully erupted; 2. Second milk-tooth, also fully erupted; 3. Third milk-tooth, partly erupted. D. C. Dentary canal; L. B. Lower border of mandible; X. Point where the dentary canal bifurcates, sending forth branches to the exits of the anterior and posterior mental foramina. (Slightly reduced from the original.)

¹Annals Carn. Mus., XVI, 1926, pp. 274-275.

The investigation was undertaken in order to determine whether or not there might be found any evidence of the existence of teeth in the process of development in the jaw below the erupted milk molars. Accordingly an X-ray photograph of the left side of the mandible was taken, and a section of the inner wall of the jaw, opposite the anterior cheek-teeth was carefully removed, thus laying bare the whole region of the roots and dental canal on the inner side.

In making the X-ray photograph it was of course necessary to put the plate between the jaws, which are firmly united at the symphysis, and which it would have been sheer vandalism to have separated in order to obtain an outer view. There is not space enough between the jaws to introduce an X-ray machine, while there was space enough to introduce the plate. The record given upon the X-ray photograph (Fig. 1) is therefore a view of the teeth in the left lower jaw, seen from the inner side of that jaw. The tooth shown at the right of the photograph is the anterior milk-molar, the next to it is the second milk-molar, and only a part of the third tooth is shown.

The skiagraph shows that the roots of the two anterior teeth extend well down toward the dentary canal and are seen to be normally developed. While the crown of the third tooth is complete in form and nearly erupted, the tooth as a whole is a mere shell, surrounding a large cavity. The fourth tooth is completely lodged in the ascending ramus. Its crown is completely formed, but its roots at the time of

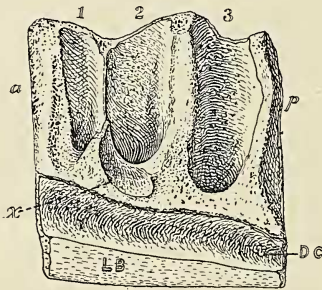


FIG. 2. Drawing of the inner face of the section of the lower mandible, which was removed from the inner side of the left lower jaw in order to expose to view the roots of the first and second milk-molars. One-half natural size. 1. Cavity occupied by the posterior root of first milk-molar; 2-3, cavities occupied by the roots of the second milk-molar. D.C. Dentary canal; X. Cavity for the accommodation of the internal branch of the bifurcated anterior root of the second milk-molar. L.B. Lower border; a. front; p. rear.

the death of the animal were not thoroughly calcified, but evidently were more or less pulpy, and still in the nascent or formative state.

The dental canal is large and has two anterior exits. (See Ann. C. M., Vol. XVI, pl. XXII.)

Directly inside and below the anterior root of the second cheek-tooth there is a small cavity just above the roof of the dental canal, which at first was thought might be a cavity, containing the budding germ of a tooth (See fig. 2, at X). However, more intensive investigation has revealed the fact that the extreme end of the anterior root of the second molar is divided, and that this cavity accommodates the tip of this bifurcated root.

It is therefore plain that this specimen, which has been minutely and critically studied furnishes no evidence whatever of a vertical succession of cheek-teeth in *Mastodon americanus*.